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1. (Currently Amended) A method of determining whether a patient has, or is responding to treatment for, cystic fibrosis the method comprising the steps of (1) obtaining a suitable epithelial cell sample from the patient, and (2) determining whether nucleotide diphosphate kinase (NDPK) function or state is altered in the cell sample compared to its function or state in a control epithelial cell wherein altered NDPK function or state in the cell sample compared to the control epithelial cell indicates whether a patient has, or is responding to treatment for cystic fibrosis.

2. (Original) A method according to claim 1 wherein phosphorylation of NDPK is altered.

3. (Original) A method according to claim 1 wherein nucleoside triphosphate production from a given nucleoside diphosphate is measured.

4. (Withdrawn, Previously Presented) A method of determining whether a patient has, or is responding to treatment for, cystic fibrosis the method comprising the steps of (1) obtaining a suitable epithelial cell sample from the patient, and (2) determining whether histidine phosphorylation of annexin is altered in the cell sample compared to its phosphorylation in a control epithelial cell thereby determining whether a patient has, or is responding to treatment for cystic fibrosis.

5. (Withdrawn) A method according to claim 4 wherein the histidine is His246 or His293 of annexin.

6. (Previously presented) A method according to

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6. (Previously presented) A method according to claim 1 wherein the epithelial cell sample from the patient is a lung cell sample or a nasal cell sample.

7. (Currently Amended) A method of classifying a disease state associated with epithelial cell dysfunction in a patient, the method comprising (1) obtaining a suitable epithelial cell sample from the patient and (2) determining for one or more of the following whether the measured parameter is altered in the cell sample compared to a control epithelial cell the measured parameters being: (I) nucleoside diphosphate kinase (NDPK) function, (ii) phosphorylation of annexin, (iii) phosphorylation of other membrane proteins, and (iv) ATPase activity wherein alteration of the measured parameter in the cell sample compared to the control epithelial cell indicates a disease state.

8. (Withdrawn) A method according to Claim 7 wherein in step (ii) phosphorylation of annexin at His246 or His293 is measured.

9. (Withdrawn) A method according to Claim 7 wherein each of parameters (i) and (ii) are measured in the sample from the patient and compared to the control sample.

10. (Withdrawn) A method according to Claim 7 wherein each of parameters (i), (ii) and (iii) are measured in the sample from the patient and compared to the control sample.

11. (Withdrawn) A method according to Claim 7 wherein all of parameters (i) to (iv) are measured in the sample from the patient and compared to the control sample.

12. (Withdrawn) A method according to claim 7

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wherein the epithelial cell sample from the patient is a lung cell sample or a nasal cell sample.

13. (Amended) A method according to claim 7 wherein the effectiveness of a treatment for cystic fibrosis is being tested on the patient.

14.-50. Canceled

51. (Withdrawn) A method according to claim 4 wherein the epithelial cell sample from the patient is a lung cell sample or a nasal cell sample.

52.-58. Canceled

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